



On the ground: land seismic trucks in action  
Photo: SERCEL

## Microseismic yet to be widely adopted

### PRODUCTION STRATEGIES

*Technology used in only 5% of fracking operations*

WHEN Peter Duncan, founder and chief executive of Houston-based Microseismic, in 2005 latched onto the award-winning idea of using microseismic techniques developed from earthquake seismology to monitor hydraulic fracture stimulation, it seemed like technology for the times, writes Andrew McBarnet.

Oil companies working the unconventional reservoirs in North America could use the data to make better production strategy decisions and to demonstrate to the environmentally concerned the travel patterns of the cracks created by hydraulic fracturing.

Over a decade later, microseismic techniques offered by Microseismic and others such as Canadian company ESG are being used on only 5% of fracking operations. Yet, the recovery rate from shale wells is still around 6% to 8%.

Duncan acknowledges that

passive seismic along the lines he has advocated must compete with established downhole monitoring techniques.

He used to talk about microseismic monitoring in terms of holding a stethoscope to the earth.

"We have developed the value proposition since then focused on production strategy," Duncan says.

"So now it's more like a meat thermometer checking to see that each frack stage is cooked just right."

In the early days, Duncan used to think of the technology as descriptive.

"We realised that our customers wanted more, so it became predictive. Our completion evaluation services can predict future production from the simulated reservoir through a numerical simulator, all within a few days," he says.

"But even that is not enough, so now we are moving to prescriptive, effectively advising drilling engineers in real time what their next move is. It should be a winning formula."

In a sign of the times, Duncan notes that the so-called "great crew change" in oil company personnel is happening.

"We sometimes seem to be starting all over again educating a new generation," he says.